

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 18062G-32-1P	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US01/17265	International filing date (day/month/year) 25 MAY 2001	(Earliest) Priority Date (day/month/year) 02 JUNE 2000
Applicant REGENTS OF THE UNIVERSITY OF CALIFORNIA		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☐ the text is approved as submitted by the applicant.
- ☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority. 9/29/01

6. The figure of the **drawings** to be published with the abstract is Figure No. 1

- ☒ as suggested by the applicant.
- ☐ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.
- ☐ None of the figures.

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

The abstract is too long (PCT Rule 8.1(b)). The abstract must be less than 150 words, or 200 words when no Figure is to be published.

NEW ABSTRACT

Fluorogenic peptide substrates allow for the configuration of general substrate libraries to rapidly identify the primary and extended specificity of enzymes, such as proteases. The substrates contain a fluorogenic leaving group, such as 7-amino-4-carbamoylmethyl-coumarin (ACC) (see Figure 1). Substrates incorporating the ACC leaving group show comparable kinetic profiles as those with the traditionally used 7-amino-4-methyl-coumarin (AMC) leaving group. The bifunctional nature of ACC allows for the efficient production of single substrates and substrate libraries using solid-phase synthesis techniques. The approximately 3-fold increased quantum yield of ACC over AMC permits reduction in enzyme and substrate concentrations, so that a greater number of substrates can be tolerated in a single assay, thus enabling an increase in the diversity space of the library. Employing this screening method, the substrate specificities of a diverse array of proteases were profiled, including serine proteases and cysteine proteases.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/17265

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/23, 24, 34, 36, 38, DIG.15, DIG.35; 525/50, 54.1, 54.11; 530/334, 345; 549/288; 702/22, 30

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST, DIALOG

search terms: coumarin, fluorogen, protease, amino acid, peptide, library, solid support

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,897,444 A (<i>BRYNES ET AL</i>) 30 January 1990 (30/01/90), see entire document.	1-83
A	US 5,089,634 A (<i>POWERS ET AL</i>) 18 February 1992 (18/02/92), see entire document.	1-83
A	US 5,872,207 A (<i>MORGAN ET AL</i>) 16 February 1999 (16/02/99), see entire document.	1-83
A	GB 2,324,529 A (<i>MERCK & CO INC.</i>) 28 October 1998 (28/10/98), see entire document.	1-83
A	<i>MORITA et al.</i> New Fluorogenic Substrates for α -Thrombin, Factor Xa, Kallikreins, and Urokinase. Journal of Biochemistry. 1977, Volume 82, Number 5, pages 1495-1498.	1-83

☐ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 31 JULY 2001	Date of mailing of the international search report 29 AUG 2001
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer JEFFREY E. RUSSEL Telephone No. (703) 308-0196

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/17265

A. CLASSIFICATION OF SUBJECT MATTER:
IPC (7):

C07D 311/02; C07K 1/04, 1/13; C08J 7/12; C12Q 1/04, 1/37; G06F 19/00

A. CLASSIFICATION OF SUBJECT MATTER:
US CL :

435/23, 24, 34; 525/50, 54.1, 54.11; 530/334, 345; 549/288; 702/22, 30